DOCUMENT RESUME

ED 102 117 95 SP 008 897

AUTHOR Heffernan-Cabrera, Patricia; And Others
TITLE Curriculum Building. Cognitive Development re. Competency Based Teacher Education. TTL-001.03 (USC).
INSTITUTION University of Southern California, Los Angeles.
SPONS AGENCY Office of Education (DHEW), Washington, D.C. Teacher Corps.
PUB DATE 12 Sep 71
NOTE 42p.

EDRS PRICE MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS Behavioral Objectives; *Curriculum Design; *Performance Based Education; *Performance Based Teacher Education; Writing
IDENTIFIERS *Learning Modules

ABSTRACT

This module allows for an initial experience from which an inductive analysis will reveal elements of a learning module. The participant will then enter the planning phase for the development of module designing. This module is completed when the participant designs his own learning module. The module itself includes the following: a preassessment, which presents diagnostic self-tests to help determine the participant's knowledge and capabilities; a description of enabling elements, which describes the steps for completing this module; and a postassessment, which evaluates the learning module that the participant has written. (PB)

ED102117

-Patricia Heffernan-Cabrera
-William John Tikunoff

Contributors:
-A. Delorise Savage
-John A. Savage

Teacher Corps: Rural-Migrant
Center for Research in Teacher Education
Phillips Hall of Education S-1002
University of Southern California
Los Angeles, California 90007

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Component: Curriculum Building

Module: Cognitive Development re. Competency Based Teacher Education

Prospectus: TTL-001.03 (USC)

(Final Draft September 12, 1971)

TABLE OF CONTENTS

Perspective.....3

Terminal Objective.....3

Prerequisite.....4

Description of Module.....4

Flow Chart.....6

Steps Completing Module.....7

Pre-Assessment.....9

Description of Enabling Elements.....28

Post Assessment.....31

Remidiation.....36

Author's Notes.....37

BEST COPY AVAILABLE

Prospectus

PERSPECTIVE:

Before anyone will undertake the new and the different, he must feel confident that success will reward his endeavors; therefore, when redesigning teaching styles which will be congruent with competency-based teacher education thrusts, it is necessary to undertake cognitive developmental tasks which ensure the building of skills essential to designing learning modules. "The Learning Module provides the vehicle for effective instruction and viable curriculum development. The learning module focuses on the needs of learners, not instructors; it emphasizes the attainment of objectives rather than simply participation in activities.

"While modules have been variously labeled as performance modules, task units, instructional modules, or educational specifications, they typically include these parts: (1) a rationale including a clear statement of why the module is important, (2) a specific objective or set of objectives, (3) a pre-assessment directly related to the module's objectives, (4) a series of activities designed to aid the learner to meet the objective or objectives, and (5) a post assessment to indicate competency relative to the objective or objectives. Feedback procedures are imbedded in the module so that students can judge their own performance and select remedial measures when necessary. Instructors too receive feedback concerning the effectiveness of the module."

OBJECTIVE

Terminal Objective

The participant will develop a module in the content area of his choice which meets minimum criteria as defined in the post assessment, which is based on an evaluation of the nature of the answers to questions grouped into five areas:

1. Objectives
2. Prerequisites
3. Assessment
4. Activities
5. Format

BEST COPY AVAILABLE

PREREQUISITE

The prerequisite to this module is successful completion of TTL-001.02 (USC). In working with experienced teachers, one might consider preceding this module with TTL-001.01 (USC), which attempts to secure affective commitment to change.

DESCRIPTION OF MODULE: TTL-001.03 (USC)

This module allows for an initial experience from which an inductive analysis reveals elements of a learning module. The participant then participates in the planning phase for the development of module designing. In this planning phase the participant considers the rationale, instructional efforts, specific learner population, and available resources. There are enabling activities which help one to learn the skills essential to module development; e.g., writing terminal objectives, writing enabling objectives, classifying objectives, designing flow charts, developing assessment procedures, specifying enabling activities, properly formulating modules, and allowing for learner options. This initial phase terminates when the participant designs his own learning module.

The enabling objectives for this module are:

(1) "The learner (writes) mechanically precise behavioral objectives which contain observable behavior and a competency level to include conditions and flexibility variables."

(2) "The learner classifies criteria-based objectives according to four types: cognitive-based objectives, performance-based objectives, consequence-based objectives, and exploratory objectives with 80% accuracy. This classification includes use of the cognitive taxonomy developed by Benjamin Bloom, et al., and the affective taxonomy of David Krathwohl, et al."

(3) "The learner constructs simplified flow charts to communicate instructional operations."

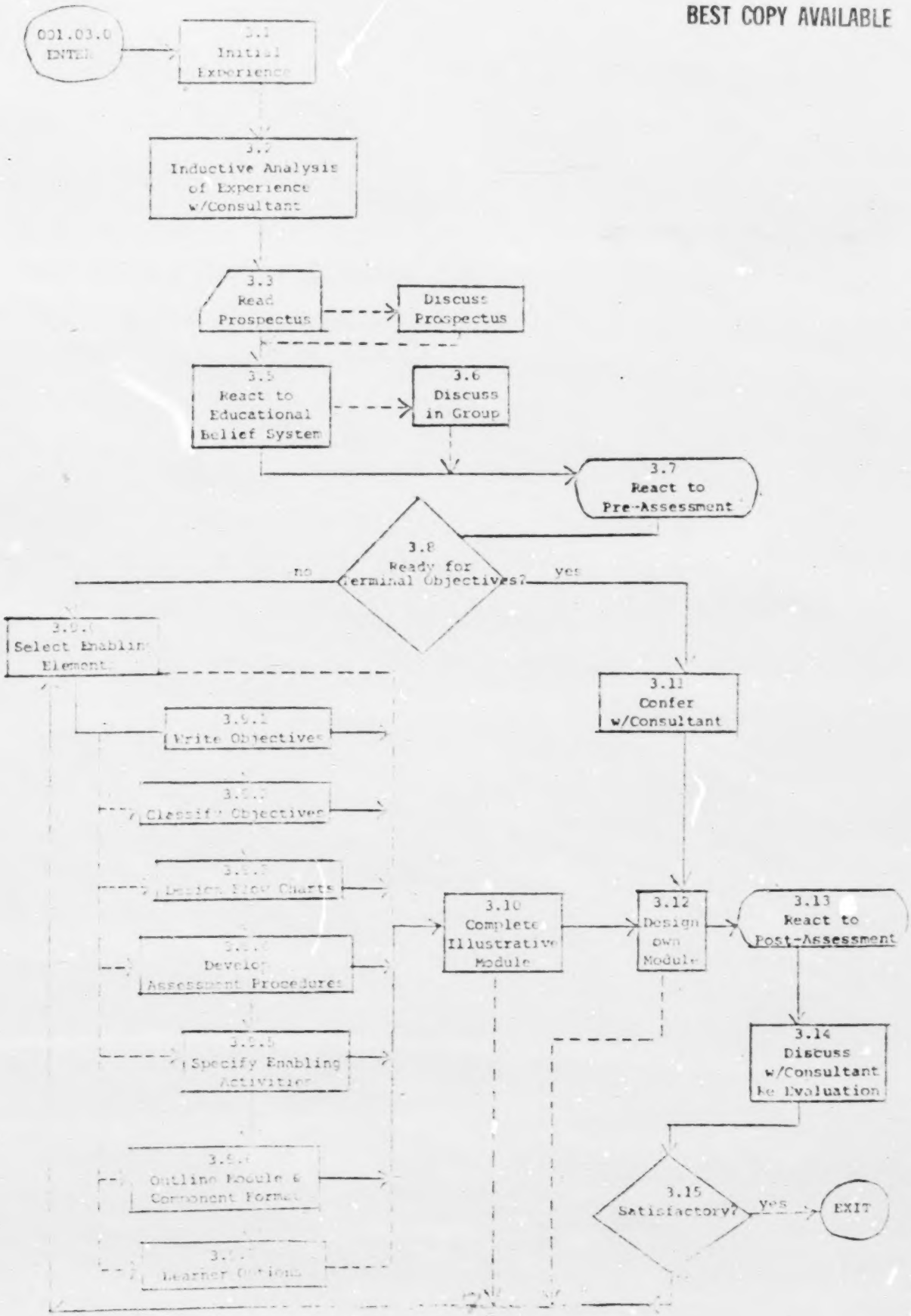
(4) "The learner writes criteria-reference assessment. Given a cognitive and performance objective and assessment items, the learner distinguishes between appropriate and inappropriate assessment items. Given exploratory and consequence objectives, the learner constructs valid assessment items."

(5) "Given an objective of each type (Cognitive, Performance, Consequence, or Exploratory), the learner states the purpose of the enabling activity for each objective, lists alternate and equivalent enabling activities for each, and notes the environment of the activity with a minimum of three errors."

(6) "The learner orders specified steps which comminicate a sequence for module and component operations. The participant states the relationship between components and modules."[5]

FLOW CHART TTL - 001.03 (USC):

BEST COPY AVAILABLE



BEST COPY AVAILABLE

STEPS FOR COMPLETING THIS MODULE: TTL-001.03 (USC)

001.03.0 Enter

3.1 Participate in the initial experience: fly a kite.

3.2 Meet with your consultant to analyze the initial experience.

3.3 Read the prospectus.

3.4 Optional: Would you like to discuss the prospectus with your consultant? If not, move to 3.5, "Educational Belief System."

3.5 React to "Educational Belief System," located in the Resources Center.

3.6 Optional: Would you like to discuss your reaction with a group? If not, move to 3.7, "Pre-Assessment."

3.7 React to Pre-Assessment.

3.8 Choice: Are you ready for Terminal Objectives?

-if YES, go to 3.11, "Confer with Consultant."
-if NO, go to 3.9.0, "Select Enabling Elements."

3.9.0 Using the key to the Pre-Assessment as your guide, select from among the following Enabling Elements those you need to complete before you can move on. NOTE: Enabling Elements are not listed in a specific order; you may work through them in any sequence you desire.

3.9.1.0 Write Objectives

3.9.1.1 Using the programmed book, Writing Behavioral Objectives, located in the Resources Center.

3.9.1.2 Using the worktext (including Bloom's Taxonomy) for this activity located in the Resources Center.

3.9.1.3 Using the worktext (including Krathwohl's Taxonomy) for this activity located in the Resources Center.

3.9.2 Classify Objectives by criteria type, using the programmed materials for this element located in the Resources Center.

3.9.3 Design Flow Charts that communicate instructional operations in a module, using the worktext for this element located in the Resources Center.

BEST COPY AVAILABLE

3.9.4 Develop Assessment Procedures for assessing learner competencies, using the worktext for this element located in the Resources Center.

3.9.5 Specify Enabling Activities for learning modules, using the worktext for this element located in the Resources Center.

3.9.6 Outline Module Component Format, using the worktext for this element located in the Resources Center.

3.9.7 Learner Options: Note that the order and necessity of the above elements is self-determined; all modules should have such options.

3.10 Complete your illustrative module. You may choose from one of the two illustrative sources provided, or you may select one of your own. Materials for completing this activity are located in the Resources Center. NOTE: At various times while you are completing your illustrative module, you may wish to refer back to one of the enabling elements to check yourself.

3.11 Meet with a consultant.

3.12 Design your own learning module, selecting from any subject you choose. NOTE: You may wish to check your module against the various enabling elements of the format.

3.13 React to Post Assessment

3.14 Meet with a consultant to discuss your Post Assessment

3.15 Is your module satisfactory?

-if YES, exit: you have completed this module.
-if NO, your consultant will help you determine which enabling elements will help complete your module satisfactorily.

EDUCATIONAL BELIEF SYSTEM
(EE001.03.5)

from

TTL-001.03 (USC)

Teacher Corps: Rural Migrant

Phillips Hall of Education S-1002
University of Southern California
Los Angeles, California 90007

Modules are essential to a performance-based, personalized teacher education program. As such, they have characteristics which distinguish them from other curriculum organizational procedures. From each pair of statements, select the one which more nearly reflects your position concerning what modules should be like.

1a.____ Modules are revised to improve their effectiveness in a changing world.

1b.____ Modules, once developed, do not need to be revised.

2a.____ Individual needs are best served through group objectives.

2b.____ Modules are personalized to meet individual needs of participants.

3a.____ Modules are useful only for independent work by students.

3b.____ Modules include a wide variety of alternate instructional activities.

4a.____ Objectives are the crux of modules.

4b.____ Activities are the crux of modules.

5a.____ The curriculum is determined by the university; especially in professional curricula like teaching where pupils must be considered.

5b.____ Learners help determine how and what they study.

6a.____ Objectives of a module are made public, known to learner and instructor alike.

6b.____ Some objectives are better not specifically delineated and made known to learners.

7a.____ Students learn more efficiently when they know objectives and understand the rationale for modules.

7b.____ Greater energy expenditure goes into convincing some people, whereas the time and effort could be better used in completing the activity.

8a.____ Modules are inherently effective and do not require continual assessment.

8b.____ Modules have built-in feedback systems for continual systematic assessment.

9a.____ Modules are isolated instructional units which are developed and then pieced together into a holistic curriculum.

9b.____ Modules are integral parts of a more comprehensive instuctional system.

10a.____ Since the University has the resronsibility for certifying teachers, students have no authority to determine program requirements.

10b.____ Modules to be completed in a component are selected through advisor-student conferences.

11a.____ Modules emphasize competency and performance to a greater extent than knowledge.

11b.____ Knowledge is the basis for all action; thus modules emphasize knowledge.

12a.____ Assessment procedures and feedback are integral parts of the total module.

12.____ Assessment and feedback occur at the end of the module.

Key--Educational Belief System

There is some disagreement among educators concerning which of the twelve pairs of statements is more nearly correct. The following list reflects our biases. To what extent do your responses agree?

We Selected	You Selected
1a.	
2b.	
3b.	
4a.	
5b.	
6a.	
7a.	
8b.	
9b.	
10b.	
11a.	
12a.	

Count the number of agreements, then score yourself using the scale below.

Number of Agreements	So What?
12	Completely brainwashed. You are obviously a module expert since you agree with us.
8-11	We are not far apart. Let's talk about the places where we differ. Discuss in groups.
4-7	We seem to be on different wave lengths. where to from here? Discuss in groups.

PRE-ASSESSMENT: TTL-001.03 (USC)
and Guide to Element Selection*

For the following questions, circle the appropriate response, follow instructions in parenthesis, then see consultant to assist you in working through the elements.

1. Can you write criteria-referenced objectives?

   A. YES
   B. NO (complete element on Objective Writing, 3.9.1.1)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 11.)

2. Can you classify criteria-referenced objectives using Bloom's taxonomy of cognitive objectives?

   A. YES
   B. NO (complete element on Objective Writing, 3.9.1.2 before proceding.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 15.)

3. Can you classify criteria-referenced objectives using Krathwohl's taxonomy of affective objectives?

   A. YES
   B. NO (complete element on Objective Writing, 3.9.1.3 before proceding.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 15.)

4. Can you classify criteria-referenced objectives by Cognitive, Performance, Consequence, and Exploratory types?

   A. YES
   B. NO (complete element on Classifying Objectives.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 17.)

5. Can you design flow charts to describe the decisions and activities a student encounters in a given module?

   A. YES
   B. NO (complete element on Flow Charting.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 20.

*Afro- W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston, 1971.

6. Can you develop adequate pre-assessment and post-assessment instructions for a module?

   A. YES
   B. NO (complete element on Assessment.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 22.)

7. Can you, when given an instructional objective and student population, select five enabling activities and justify their selection?

   A. YES
   B. NO (complete element on Enabling Activities.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 24.)

8. Can you distinguish between "Component Format Style" and "Module Format Style"?

   A. YES
   B. NO (complete element on Module and Component Format.)
   C. NOT CERTAIN (complete Diagnostic Self-Test on page 26.)

DIAGNOSTIC SELF-TEST

Writing Criteria-Referenced Objectives

The following three statements are not written as criteria-referenced objectives. Rewrite them so that they contain these three defining characteristics of a criteria-referenced objective:

1. Student performance;
2. Conditions under which performance is to occur;
3. Criteria for judging successful demonstration of the performance.

1. When given a description of a position from the classified ads of the daily newspaper, the 12th grade student will be able to write a letter of application for employment.

2. Discusses principles for developing reading readiness in the primary grades.

3. The learner selects at least five factors contributing to the depression of 1929.

Go to page 12 to check your answers.

DIAGNOSTIC SELF-TEST

Answers for Writing
Criteria-Referenced Objectives

The three statements could be rewritten as follows:

1. The student, upon completion of the unit of instruction on writing letters of application, writes a letter of application which meets criteria of conciseness, readability, correct form (the criteria listed in the unit).

Or,

Given a specific job description, the student writes a letter of application which meets minimum criteria established by the class.

2. The student explains in writing at least five principles for developing reading readiness in the primary grades.

3. Given a list of factors leading to significant historical events, the learner selects at least five factors contributing to the depression of 1929.

If you missed two of the three, complete section 3.9.1.9 of the element on Objective Writing.

DIAGNOSTIC SELF-TEST

Classifying Cognitive Objectives
by Levels

Classify the following objectives into the six levels of the Cognitive Domain by writing the level name in the blank at the beginning of each objective.

_____1. Given a histogram showing class scores on an achievement test, the student interprets five characteristics of the class.

_____2. Given a one paragraph description of a classroom the student separates those statements which are facts from those which are the author's inferences.

_____3. Given a two-page written argument titled "The Draft Is Wrong," the student identifies logical fallacies in the argument and justifies his criticisms.

_____4. Given a healthy green plant, the student predicts the probable effect of putting that plant inside a dark closet.

_____5. Given a slow learner, the student plans a lesson to teach the pupil to add one-digit numbers without regrouping.

_____6. Given a list of factors leading to significant historical events, the learner selects at least five factors contributing to the depression of 1929.

Go to page 14 and check your answers.

DIAGNOSTIC SELF-TEST

Answers for Classifying
Cognitive Objectives by Levels

1. Comprehension
2. Analysis
3. Evaluation
4. Application
5. Synthesis
6. Knowledge

If you missed two of the six, complete section 3.9.1.2 of the element on Objective Writing.

DIAGNOSTIC SELF-TEST

Classifying Affective Objectives by Levels

Classify the following objectives into the five levels of the Affective Domain by writing the level name in the blank at the beginning of each objective.

_____ 1. The student habitually weighs evidence to formulate a considered response by habitually consulting more than one authority in searching for explanations.

_____ 2. During an awareness seminar, the student identifies an attitude toward teaching that is revealed by one other student.

_____ 3. The student acquaints himself with current issues in political affairs through voluntary reading and discussion.

_____ 4. The student judges problems and issues in terms of situations, issues, purposes, and consequences involved rather than in terms of fixed dogmatic precepts or wishful thinking.

_____ 5. The student develops a plan for regulating his rest in accordance with the demands of his activities.

Go to page 16 to check your answers.

DIAGNOSTIC SELF-TEST

Answers for Classifying
Affective Objectives by Levels

1. Valuing

2. Receiving

3. Responding

4. Characterization by a Value or Value Complex

5. Organization

If you missed two of the five, complete section 3.9.1.3 of the element on Objective Writing.

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Classify Objective by Criterion Type

Using the following classificaion system

I Cognitive-based Objectives
II Performance-based objectives
III Consequence-based objectives
IV Exploratory objectives

classify the given objectives according to types by writing the appropriate symbol(s) in the blank preceding each objective.

1. _____ After viewing the movie "Summer Children," the student writes a two-page description of strategies employed in the experimental school.

2. _____ Given a social science concept, the student selects and demonstrates an appropriate strategy for teaching the concept.

3. _____ Following a lecture on the preparation of lesson plans, the prospective teacher evaluates (according to a given criteria) a plan prepared by another student.

4. _____ After being taught a given math game by a prospective teacher, elementary pupils correctly play the game and can descibe verbally its rules.

5. _____ Following a slide-tape presentation on the design and construction of learning modules, the prospective teacher designs a module and assembles the materials necessary for using the modlue with students.

6. _____ The prospective teacher visits in the home of at least one of his pupils.

7. _____ After the prospective teacher has designed and impemented a module on "paragraph meaning" reading skills, pupils who studied the module interpret six parpgraphs accurately.

8. _____ The prospective teacher sits in on a parent-teacher conference.

9. _____ The prospective teacher teaches a lesson on "Good Manners in the Lunchroom," after which pupil behavior in the lunchroom is observed to assess the effectiveness of the lesson.

10. _____ After working with pupils in a tutorial situation, the prospective teacher selects and employs diagnostic techniques to diagnose reading difficulties of the tutored pupils.

Go to page 19 and check your responses.

DIAGNOSTIC SELF-TEST

Answers for Classifying Objectives

We classified the objectives in the following manner:

1. I
2. II
3. I
4. III
5. II
6. IV
7. III
8. IV
9. III
10. II

If you missed three of the ten, complete the element on Classifying Objectives.

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Design Flow Charts

An instructor had the following objective:

The student distinguishes between educational goals and instructional objectives.

The enabling activities below had been designed to help the students achieve the objective. Use the symbols at the bottom of the page to construct a flow chart to show student operations. Use the symbols as often as needed.

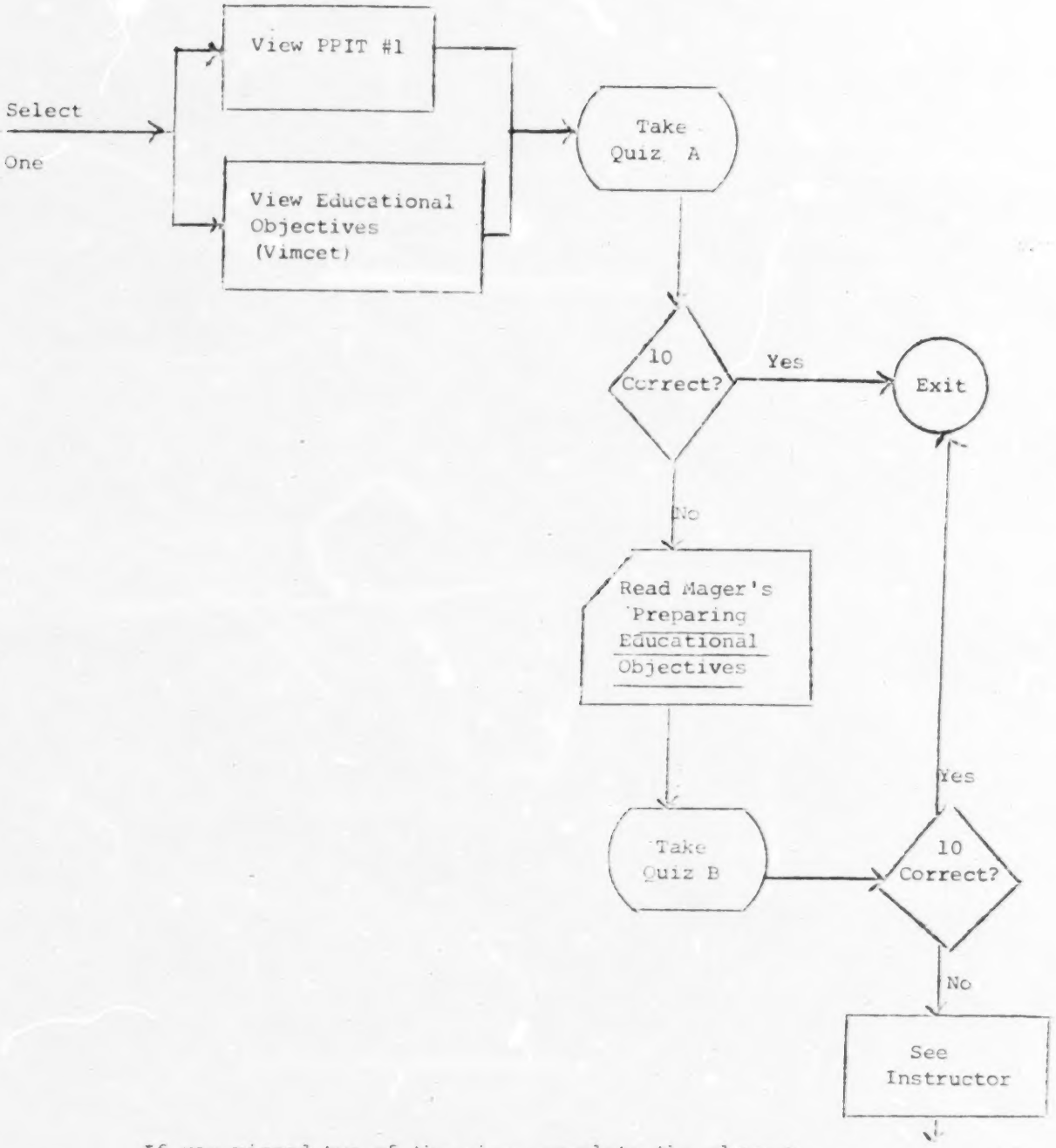
A. View PPIT #I or view Educational Objectives by Vimcet;
B. Take Quiz A, supplied by the instructor;
C. If 10 or more correct, exit module;
D. If less than 10 correct, read Mager's Preparing Educational Objectives;
E. Take Quiz B, supplied by instructor;
F. If 10 or more correct, exit module;
G. If less than 10 correct, see instructor.

Draw your flow chart on the back of the preceding page.
Go to page 21 to check your answers.

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Answers for Designing Flow Charts



If you missed two of the nine, complete the element on Designing Flow Charts.

DIAGNOSTIC SELF-TEST

Assessment

1. Place an "x" by the assessment if it evaluates the stated objective.

Objective		Assessment Item
a. Student defines interaction analysis.	_____	Given a five-minute classroom tape, code the teaching behaviors using interaction analysis.
b. Student uses Suchman Inquiry strategy in social studies instruction.	_____	In a microteaching situation, plan and perform an inquiry social studies lesson.
c. Student writes criteria-referenced objectives.	_____	Write four criteria-referenced objectives which are appropriate for a fourth grade class.
d. Student uses overhead projector.	_____	Plan a lesson which includes use of media in a classroom.

2. State a definition of criteria-referenced assessment.

Go to page 23 to check your answers.

DIAGNOSTIC SELF-TEST

Answers for Assessment

1. An "x" should be placed in blanks "b" and "c".

2. The definition of criteria-referenced assessment could include any of the following:

   A. Assessments designed to measure the objectives taught.
   B. Assessments in which an individual's score is interpreted in relationship to a fixed criteria, not the scores of other individuals.
   C. Assessments designed to measure accurately how well each student has attained stated objectives.

If you missed two of the five, complete the element on Developing Assessment Procedures.

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Enabling Activities

TYPE OF OBJECTIVE	PURPOSE OF ACTIVITY	ENVIRONMENT FOR ACTIVITY
Cognitive	Motovation	Information Resource Area
Performance	Data In-put	Laboratory
Consequence	Behavior Refinement	Field
Exploratory	Reality Test	

Given the preceding categories and the following partial list of TYPES OF ENABLING ACTIVITIES, write the name of the one item in each category that corresponds to the listed activity. After completing, see page 25.

ACTIVITY	OBJECTIVE	PURPOSE	ENVIRONMENT
1. Tutoring			
2. Attend a Lecture			
3. Peer Teaching			
4. Teacher Aide			
5. Encounter Group			
6. Printed Material			
7. Attend a Seminar			

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Answers for Enabling Activities

There is no single best response to some of the items on this exercise. The criteria is for the objective, purpose, environment, and activity to be directly related and compatible. This results in having selected a compatible objective for the activity; the purpose and environment must be compatible with that type of objective.

ACTIVITY	OBJECTIVE	PURPOSE	ENVIRONMENT
1. Tutoring	Performance	Behavior Refinement	Laboratory or Field
	Consequence	Reality Test	Laboratory or Field
	Exploratory	Motivation	Laboratory or Field
NOTE: There are three correct responses to this item. A correct response would need to match one of the three rows and not interchange items between the rows.			
2. Attend Lecture	Cognitive	Data In-put	Information Resource Area
	Exploratory	Motivation	Information Resouce Area
3. Peer Teaching	Performance	Behavior Refinement	Laboratory
4. Teacher Aide	Exploratory	Reality Test or Motivation	Field
5. Encounter Group	Performance	Behavior Refinement or Reality Test	Laboratory
	Exploratory	Behavior Refinement	Laboratory
6. Printed Materials	Cognitive	Data In-put	Information Resource Area
7. Attend Seminar	Cognitive	Motivation or Data In-put	Information Resource Area
	Performance	Behavior Refinement	Laboratory
	Exploratory	Motivation	Laboratory or Information Resource Area

There is no score given for this assessment activity. Compare your responses with the answer section and use your judgment about your need to take the Enabling Element on Enabling Activities.

BEST COPY AVAILABLE

DIAGNOSTIC SELF-TEST

Module/Component Format

In one column below is a scrambled list that identifies steps found in a module format. Rewrite this list in its corrected order under "Module Format." Then rewrite the list of scrambled component format steps in correct order under "Component Format."

SCRAMBLED MODULE FORMAT	MODULE FORMAT
1. Pass Enabling Objective?	1.
2. Take Pre-assessment	2.
3. Exit	3.
4. Continue?	4.
5. Enter	5.
6. Pre-assessment	6.
7. Enabling Activities	7.
8. Exit	8.
9. Read Module Prospectus	9.
10. Terminal Activities	10.
11. Pass Terminal Objective?	11.
12. Return Pre-assessment to Instructor	12.

SCRAMBLED COMPONENT FORMAT	COMPONENT FORMAT
1. Pass?	1.
2. Select First Module	2.
3. Pass All Objectives?	3.
4. Read Prospectus	4.
5. Advisor Conference	5.
6. Enter	6.
7. Select Component for Study	7.
8. Pre-assessment	8.
9. Select Next Module	9.
10. Take Pre-assessment?	10.
11. All Modules Completed?	11.
12. Post Assessment	12.
13. Continue?	13.
14. Exit	14.
15. Select Modules to be Completed	15.
16. Complete Module	16.
17. All Components Completed?	17.
18. Exit	18.

Go to page 27 to check your answers.

DIAGNOSTIC SELF-TEST

Answers for Module/Component Format

Module Format	Component Format
Enter	Enter
Read Module Prospectus	Select Component for Study
Continue?	Read Prospectus
Exit	Continue?
Take Pre-assessment?	Exit
Pre-assessment	Take Pre-assessment?
Return Pre-assessment to Instructor	Pre-assessment
Pass Terminal Objective?	Advisor Conference
Pass Enabling Objective?	Pass All Objectives?
Enabling Activities	Select Modules to be Completed
Terminal Activities	Select First Module
Exit	Complete Module
	All Module Completed?
	Select Next Module
	Post Assessment
	Pass?
	All Components Completed
	Exit

If you disagree with either Component or Module Format above, justify your answer in the space below.

BEST COPY AVAILABLE

DESCRIPTION OF ENABLING ACTIVITIES: TTL-001.03 (USC)

001.03.1 and .03.2 Initial Experience and Inductive Analysis: This will be an inductive learning experience out of which participants will "discover." The problem set forth is to fly a kite. All materials are provided, including kite kits, string, rags for tails, etc., but also colored tissue paper, balsa wood, glue, etc., for anyone who would select an option to make his own kite from scratch. The purpose is to: (1) "experience" a situation wherein non-structure is dependent upon outside, "loose" structure; i.e., to fly the kite is dependent upon the correct assembling of materials, and the "set" (environment) being arranged, (2) analyze the experience with the consultant re. discoveries.

3.5 "Educational Belief System" is an instrument containing 12 statements re. what modules in competency-based teacher education program should be like. The participant compares his reactions with a key which helps him decide if he needs further discussion. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston, 1971. pp. 9, 10, 15.

3.9.1.1 Writing Behavioral Objectives: A Programmed Exercise for Beginners is a programmed textbook designed as an instructional unit in learning to write behavioral objectives. A copy can be found in the Resources Center.

Source: David E. Hernandez. Writing Behavioral Objectives: A Programmed Exercise for Beginners. New York: Barnes & Noble, Inc. 1971.

3.9.1.2 "Write Cognitive Objectives" is a worktext of programmed material which makes use of Bloom's Taxonomy of Educational Objectives, a classification system of the cognitive domain. A copy can be found in the Resources Center.

Source: Benjamin S. Bloom. Taxonomy of Educational Objectives. New York: David McKay Company, Inc., 1956.

3.9.1.3 "Write Affective Objectives" is a worktext of programmed material which makes use of Krathwohl's

BEST COPY AVAILABLE

Taxonomy of Educational Objectives, a classification system of the affective domain. A copy can be found in the Resources Center.

Source: David R. Krathwohl. Taxonomy of Educational Objectives. New York: David McKay Company, Inc. 1956.

3.9.2 "Classify Objectives by Criteria Type" is a workbook arranged in "scrambled" format. Participants learn to classify objectives by these criteria: cognitive-based, performance-based, consequence-based, exploratory. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas, University of Houston. 1971. pp. 38-56.

3.9.3 "Design Flow Charts" is a worktext in programmed format. Participants learn to use flow charting as a meaningful way to describe the process and alternative options which students follow in completing a module. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston. 1971. pp. 57-66.

3.9.4 "Develop Assessment Procedures" is a worktext in programmed format. Participants inductively arrive at a definition of criteria-rereferenced assessment, and the relationship between behavioral objectives and assessment procedures. They learn to devise their own assessment procedures. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston. 1971. pp. 67-70.

3.9.5 "Specify Enabling Activities" is a study text. Participants learn to design appropriate learning activities which contribute to achieving an objective including the use of alternatives and learner options. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston. 1971. pp. 71-75.

3.9.6 "Outline Module and Component Format" is programmed material. The participant orders specified steps for a sequence within a module and distinguishes between components and modules. A copy can be found in the Resources Center.

Source: W. Robert Houston, et al. Developing Learning Modules. Houston, Texas: University of Houston. 1971. pp. 76-84.

3.10 In this activity, participants synthesize the ideas from the enabling elements by constructing a brief learning module using materials from one of three sources: (1) a handbook of modern origami (paper-folding into different shapes); (2) a handbook of paper airplane-folding; or (3) a source of their choice. Copies may be found in the Resources Center.

Source: Jerry Mander, et al. The Great International Paper Airplane Book. New York: Simon and Schuster. 1967.

James Minoru Sakoda. Modern Origami. New York: Simon and Schuster. 1969.

BEST COPY AVAILABLE

POST ASSESSMENT: TTL -001.03 (USC)

The following questions form the basis for evaluating your own module. While each question can be answered either yes or no, the reasoning behind that answer provides the real basis for the post-assessment. For Convenience, these questions are grouped into five areas: (1) Objectives, (2) Prerequisites, (3) Assessment, (4) Activities, and (5) Format. After completing this instrument, discuss it and your module with a consultant.

Criteria	Circle One	Module Description-Assessment
OBJECTIVES		
1. Do Objectives contribute to the general purpose of the larger instructional system?	Yes No	1.
2. Are Objectives consistent with good educational practice?	Yes No	2.
3. Are objectives appropriate for the target population?	Yes No	3.
4. Are objectives so stated that they meet the criteria of (a) specific description of expected performance, (b) conditions under which that performance is to be demonstrated, and (c) criteria for assessing the adequacy of the performance?	Yes No	4.

Criteria	Circle One	Module Description-Assessment
OBJECTIVES		
5. Are enabling objectives logically consistent with the terminal objectives?	Yes No	5.
6. Do objectives reflect consequence, performance and affective as well as cognitive outcomes? Classify objectives using above categories. For cognitive and affective objectives, classify using Bloom's and Krathwohl's taxonomies.	Yes No	6.
PREREQUISITES		
1. If prerequisites are stated, are they logical requirements which should precede the stated terminal objectives of this module	Yes No	1.
2. Can participants logically be expected to have attained prerequisites prior to beginning this module?	Yes No	2.
3. Are prerequisites clearly and unambiguously stated?	Yes No	3.
4. Is a procedure outlined for participants to complete needed prerequisites?	Yes No	4.

BEST COPY AVAILABLE

Criteria	Circle One	Module Description-Assessment
ASSESSMENT		
1. Is the pre-assessment consistent with terminal and enabling objectives?	Yes No	1.
2. Does the pre-assessment act as a diagnostic instument which identifies modules or elements which the participant may option out of, or those which are required to develop needed proficiency?	Yes No	2.
3. Is a procedure evident for administering, scoring, and returning pre-assessment to students?	Yes No	3.
4. Does the pre-assessment tap more than just cognitive abilities?	Yes No	4.
5. Does pre-assessment include immediate prerequisites to the module?	Yes No	5.
6. Is the pre-assessment only a pencil-paper test?	Yes No	6.
7. Has the information been identified which you are accepting as evidence that the objective has been met?	Yes No	7.

Criteria	Circle One	Module Description-Assessment
ASSESSMENT		
8. Have the tools (instruments, etc.) to gather this information been identified?	Yes No	8.
9. Is it reasonable to conclude that the assessment process adequately measures the objectives of the module?	Yes No	9.
ACTIVITIES		
1. What decisions are open to students?		1.
2. Are activities consistent with objectives?	Yes No	2.
3. Do activities reflect a variety of instructional modes, so as to respond to individual learner characteristics?	Yes No	3.
4. Are needed materials readily accessible and clearly identifiable?	Yes No	4.
5. Do activities utilize learning time efficiently?	Yes No	5.
6. Are activities appropriate to individual learner readiness and background?	Yes No	6.
7. Is this module worth the cost of its development and implementation?	Yes No	7.

Criteria	Circle One	Module Description-Assessment
ACTIVITIES		
8. Do the activities produce adverse side effects?	Yes No	8.
FORMAT		
1. Is the module format which is provided to students clear and unambiguous?	Yes No	1.
2. Is the module format consistent with mode of instruction employed?	Yes No	2.
3. Is a student flow chart utilized to describe procedures, decisions, and student options?	Yes No	3.
4. If students are unsuccessful in completing a module are procedures clear for repeating it or for recycling through prerequisites?	Yes No	4.

REMEDIATION:

In this module, the participant is to construct his own learning module. If, at evaluation point 001.03.15, it is felt the module is not yet complete, the participant is recycled through those enabling elements that may help him complete his module.

AUTHORS' NOTES

(1) Houston, Robert W. et al, Developing Learning Modules., 1971: University of Houston, Texas, Pg. 1.

(2) Hernandez, David E. Writing Behavioral Objectives. New York: Barnes & Noble, 1971, Pg. 1.

(3) Op. Cit., Houston, Pg. 67.

(4) Op. Cit., Houston, Pg. 71.

(5) Op. Cit., Houston, Pg. 76.

(6) Adapted from Developing Learning Modules (Houston, et al.), Pg. 7.